

AMENDMENTS TO THE DRAWINGS:

The attached sheets of drawings includes (i) amendments to Figure 17A to correct obvious mistakes and (ii) amendments to Figure 17B to correct obvious mistakes.

Attachments: 1 Replacement Sheet for Figures 17A and 17B
 1 Annotated Sheet showing changes in Figures 17A and 17B

REMARKS

Claims 5-20 are allowed in this application.

Amendments to the Drawings

Figures 17A and 17B are hereby amended to correct obvious mistakes. Channel current region 20 and tunnel current region 21 were either misplaced or not shown in original Figures 17A and 17B, as would be obvious to one of ordinary skill in the art upon reading the specification. For example, Figure 14 represents an example of a “fifth embodiment” that is described in the specification at page 33, line 23, to page 36, line 24. Figures 17A and 17B are described as “cross-sectional views showing a memory cell according to a modification example of the fifth embodiment” in the specification as originally filed (pg. 36, lines 5-7). The specification further states that “[t]he memory cells of the modification example can obtain the same effect as the fifth embodiment” (pg. 36, lines 20-21). One of ordinary skill in the art, upon reading the specification, would understand that channel current region 20 and tunnel current region 21 are properly shown as in amended Figures 17A and 17B, such as to be consistent with the specification and Figure 14.

The original specification states that channel current region 20 is located in silicon substrate 1, and that tunnel current region 21 is located in tunnel insulating film 4. For example, the specification explains that channel current region 20 is “a region ... where channel current flows in the cell transistor operation” (pg. 34, lines 10-12), and Figure 14 shows that channel current region 20 is located in “silicon substrate 1.” The specification also explains that tunnel current region 21 is “a region ... where tunnel

current flows in the write/erase operation” (pg. 34, lines 13-14), and Figure 14 shows that tunnel current region 21 is located in “tunnel insulating film 4.”

Furthermore, one of ordinary skill in the art would know, in view of the original specification, that channel current region 20 and tunnel current region 21 should be at the particular locations shown in amended Figures 17A and 17B. Applicants advise that one of ordinary skill would know that (i) the channel current flows through an inversion layer at a surface region of the substrate 1, (ii) the channel current is concentrated in sections of increased vertical electric field intensity, and (iii) the regions of increased vertical electric field intensity are sections of the surface region of the substrate 1 that are arranged under the smaller thicknesses of the tunnel insulating film 4. Applicants also advise that one of ordinary skill would know that the (i) the tunnel current flows through the tunnel insulating film 4, (ii) the tunnel current is concentrated in sections of increased vertical electric field intensity, and (iii) the regions of increased vertical electric field intensity are sections of the tunnel insulating film 4 having smaller thicknesses. Thus, the particular locations of channel current region 20 and tunnel current region 21 that are shown in amended Figures 17A and 17B correct obvious mistakes in the original versions of these drawings.

In addition, the illustration in amended Figures 17A and 17B of channel current region 20 as larger than tunnel current region 21 is supported in the original specification. For example, the specification explains that “the channel current region 20 has the larger area than the tunnel current region 21” (pg. 34, lines 15-16), and this relationship is also shown in Figure 14. Thus, the amendments to Figures 17A and 17B correct obvious mistakes and add no new subject matter.

CONCLUSION

Applicants respectfully request entry of the foregoing amendments, which are filed after the mailing of the Notice of Allowance and with the payment of the Issue Fee.


Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: January 13, 2006

By: _____



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Attachments: 1 Replacement Sheet for Figures 17A and 17B
 1 Annotated Sheet showing changes in Figures 17A and 17B

ANNOTATED SHEET

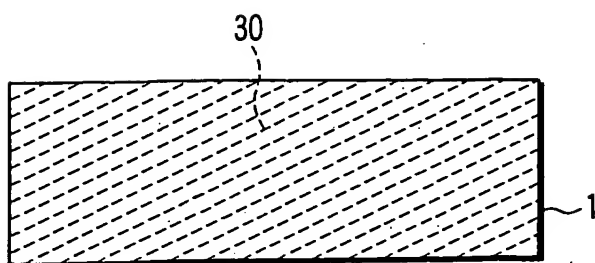


FIG. 16A

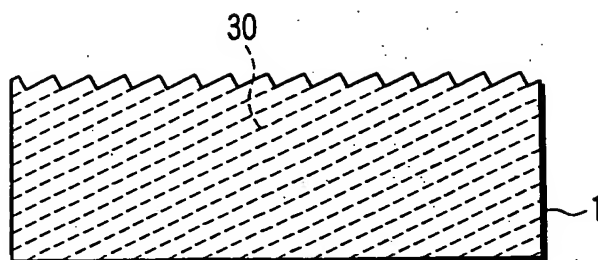


FIG. 16B

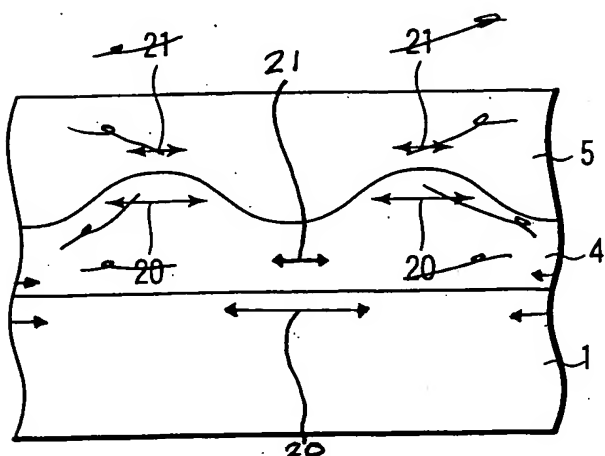


FIG. 17A

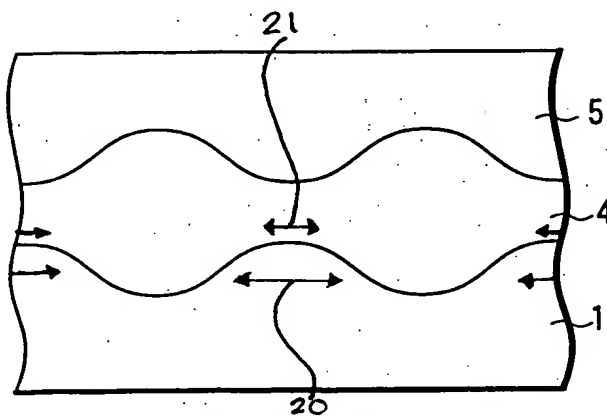


FIG. 17B

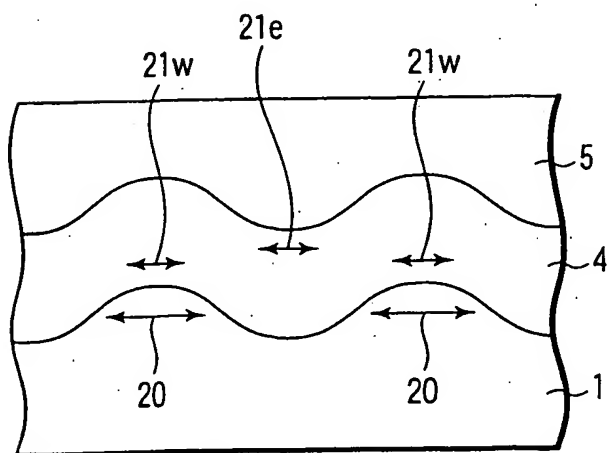


FIG. 18

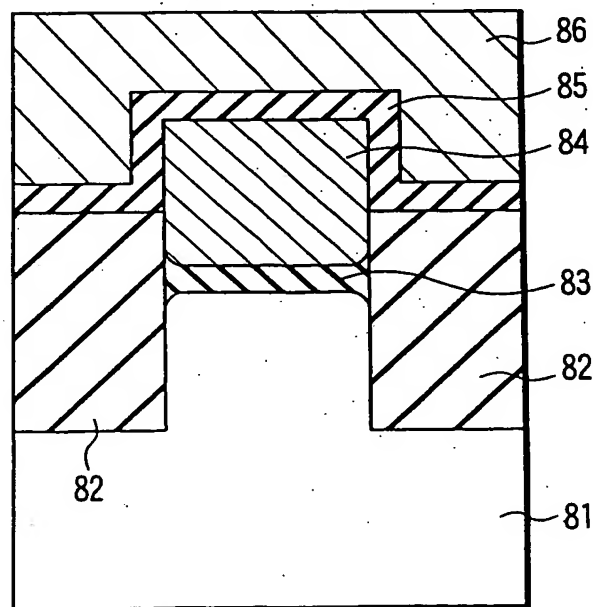


FIG. 19 (PRIOR ART)